



ELSEVIER

Fitoterapia 70 (1999) 134–139

FITOTERAPIA

Traditional medicines in primary health care: plants used for the treatment of hypertension in Bafia, Cameroon

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Received 12 January 1998; accepted 21 October 1998

Abstract

Twenty-six plants traditionally used to treat hypertension in the Bafia region, Cameroon, are reported. © 1999 Elsevier Science B.V. All rights reserved.

Keywords: Traditional medicine; Hypertension; Medicinal plants; Cameroon

1. Introduction

A main fraction of population in developing countries remains dependant on ancestral plant knowledge for health care. This ratio keeps increasing with the state of poverty of these countries. In addition, WHO encourages the inclusion of medicinal plants in programmes of developing countries because of the great potential these plants represent in combating various diseases. The above effort is followed by that of OAU (Organization of African Unity) with the existence of a pharmacopoeia at the continental level. Therefore it becomes imperative for people to be informed about the benefits, risks and limitations of the different

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plants to be incorporated in treatments. In Cameroon, the interest in the use of medicinal plants has kept growing for the last 10 years. One reason for this was because of the financial crisis which resulted in low salaries and devaluation of the local currency. These two facts drastically increased the prices of conventional chemical drugs, making them unaccessible for common people. The above economic crisis seems also to have increased the number of inhabitants suffering from metabolic and/or cardiovascular diseases, such as diabetes and hypertension. The present paper provides information on some 26 plants from 21 families which are traditionally used to treat hypertension in the region of Bafia, a small locality situated 121 km from Yaoundé, the political capital.

2. Methodology

The medicinal uses of plants were gathered from different places around Bafia following interviews with local herbalists and traditional healers (mainly old men) during field work conducted during the years 1993–1994. Botanical specimens of all recorded plants were collected, identified and deposited in the Cameroon National Herbarium (Ministry of Agriculture) for future reference.

3. Results

The medicinal plants used as antihypertensive agents in the study area are arranged in alphabetical order. Each entry gives the following information in sequence: botanical name, family (in parentheses), local name(s) (ethnic source in parentheses), plant part used, mode of use, dose and possibly duration of treatment. Other identified uses of the reported plants are also listed.

Alchornea cordifolia (Schum. et Thonn.) Müll. Arg. (Euphorbiaceae), Sadiodio (Bafia), Aboe (Ewondo), Kip-togui (Bamileke); leaves. Preparation: syrup obtained from decoction of leaves, yolk from 10 eggs, 0.5 l of lemon juice, 1 l of honey and 150 ml of whisky. Dose: 75 ml of syrup twice a day; for children, 10–20 ml of syrup three times a day. The plant is also used against anemia, syphilitic affections and toothaches.

Allium cepa L. (Liliaceae), Tigner (Tikar), Ayàn (Ewondo), Djanga (Douala), Agnôsi (Medumba); onion bulb. Preparations: (a) 200 g of bulb cut into pieces and macerated in 1 l of water for 24 h; (b) 50 g of bulb cut into pieces and decocted in 300 ml of water until half of the volume is reached. Dosage: (a) 100–150 ml of liquid two to three times a day; (b) 10 ml many times a day. The plant is diuretic. The decoction is also used to cure sexually transmitted diseases.

Allium sativum L. (Liliaceae), Ayang ntangan (Yaoundé); bulb. Preparation: 30 g of bulb macerated in 1 l of palm wine (diluted alcohol) for 2 weeks while shaking regularly. Dose: 75 ml of the macerate two to three times a day. The plant is also used as an antidiabetic and anthelmintic.

Annona muricata L. (Annonaceae), Saoussawa awaki (Sanaga), Saba saba (Medumba), Bwembé (Tikar), Ebom (Ewondo); leaves. Preparation: 25 leaves and 25 leaves of *Persa americana* Mill. (Lauraceae) boiled in 1.5 l of water; the decoction is concentrated up to a volume of 1 l, to which five spoonfuls of honey are added. Dose: 150 ml three times a day for a maximum of 2 weeks. The presence of γ -aminobutyric acid which has a depressive effect in dogs and other laboratory animals could justify the use of the plant in the treatment of hypertension [1].

Bidens pilosa L. (Asteraceae), Tchiogwenoh (Batoufam), Lelete netseke (Bameka), whole plant. Preparations: (a) two handfuls of the plant decocted or infused in 1 l of water; (b) paste of leafed stems of *B. pilosa*, *Ethulia conyzoides* L. (Asteraceae), *Chenopodium ambrosioides* L. (Chenopodiaceae), young leaves of *Ceiba pentandra* Gaertn. (Bombacaceae) and a few ground seeds of *Aframomum melegueta* K. Schum. (Zingiberaceae) macerated in a suitable quantity of water for 4–6 h. Dose: (a) 100–150 ml of solution drunk three times a day; (b) 150 ml twice a day; (dosage reduced when blood pressure lowers). The plant is also used to cure headaches and dysmenorrhea.

Cassia occidentalis L. (Caesalpinaceae), Nom sas (Yaoundé); seeds. Preparation: 250 g of ground seeds macerated in 5 l of water for 4 h. Dose: 100–150 ml drunk three times a day. However, seeds are highly toxic, due to the presence of toxalbumin [2]. Leaf decoction is also used as a laxative and cholagogue, with properties compatible with presence of anthracenic derivatives and flavonoids [3].

Catharanthus roseus (L.) G. Don., syn. *Vinca rosea* L. (Apocynaceae); roots. Decoction of 100 g of fresh roots in 1.5 l of water given without food to a patient in the morning (once a day); blood pressure is controlled, and a saltless diet is maintained during treatment. More than 61 alkaloids have been isolated from different parts of *C. roseus* [2] among which is ajmalicin, which is contained in the roots and responsible for antihypertensive properties [4]. The plant is known from different popular pharmacopoeias as anti-diabetic; catharantin, leurosin, lochnerin, tetrahydroalstonin and vincolin justify its hypoglycemic properties; vinblastin and vincristin, indolic alkaloids with potent anti-mitotic properties, justify its use in cancer therapy [5].

Ceiba pentandra (L.) Gaertn. (Bombacaceae), Riwoun (Bafia), Doum (Ewondo), Heum (Medumba), Awouèng (Tikar); bark, leaves, roots. Preparation: 250 g of bark macerated in 3 l of water. Dose: 150 ml drunk three times a day.

Citrus grandis L., syn. *C. decumana* Murr. (Rutaceae), Limi gnamba (Tikar); fruit. Preparation: five fruits expressed to give juice which is added to two cups of honey and a small amount of indigenous salt (locally made potassium carbonate). Dose: 75 ml three times a day.

Cymbopogon citratus (DC.) Stapf. (Poaceae), Djenji (Tikar), Ossanga (Ewondo, Douala), Fiba glass (Bamileke); roots. Preparation: 100 g of roots and a bulb of *A.*

sativum in 1 l of water in decoction. Dose: 100–150 ml three times a day. The plant has diuretic and sudorific effects, leaves and roots are also used as antipyretic.

Gardenia ternifolia Schum. et Thonn. (Rubiaceae), Iheung (Bafia); bark. Preparation: 100 g of fresh bark are macerated in 2 l of water for 48 h. Dose: 150 ml given three times a day. The plant is also used in feminine sterility.

Harungana madagascariensis Poir. (Hypericaceae), Aton-dog (Yaoundé); bark. Preparation: decoction of 0.5 kg in 5 l of water. Dose: 150–200 ml given three times a day. Decoction of leaves is also used in liver problems and against anemia.

Jatropha curcas L. (Euphorbiaceae), Beadoundé (Sanaga), Lèn (Tikar); roots. Preparation: decoction of 0.5 kg roots in 5 l of water with addition of a little amount of indigenous salt. Dose: 100–150 ml drunk twice a day (maximum duration of treatment: 6 days). The decoction, which has diuretic effects, is also used against sexually transmitted diseases.

Manihot esculenta Crantz. (Euphorbiaceae), Zenguè (Tikar), Kédiànn (Bafia), Makwamba (Douala), Cassinga (Bangangte), Mbon (Yaoundé); leaves. Preparation: Leaf paste is macerated in water, added to a mixture of non-sweetened milk, grapefruit juice and an egg, and homogenized. Dose: 150 ml three times a day (maximum duration of treatment: 3 days).

Milletia sanagana Harms (Fabaceae), Bolété wanjo (Sanaga); roots. Preparation: 250 g macerated in 3 l of water. Dose: 150 ml three times a day (maximum duration of treatment: 2 weeks). The plant has a diuretic effect.

Palisota hirsuta (Thumb) K. Schum. (Commelinaceae), Ekok (Obala) leaves. Preparation: 1 handful and 100 g of roots of *Carica papaya* L. (Caricaceae) decocted in 3 l of water. Dose: 100–150 ml three times a day. The plant is also used as antidiysenteric [6].

Persea gratissima Gaertn. (Lauraceae), Pia (Sanaga, Eton, Douala, Tikar, Bamileke), Fia (Ewondo); leaves and bark. Preparation: decoction of leaves and bark in a suitable quantity of water after adding a small amount of indigenous salt and honey. Dose: 150 ml three times a day (in the morning without food, at noon and in the evening).

Piper umbellatum L. (Piperaceae), Foubôrèn (Bafia), Abomedzana (Ewondo), Bepoie (Bamileke), Meubouè (Tikar); leaves. Preparation: 300 g of fresh leaf paste macerated in 1 l of water. Dose: 200–300 ml of maceration given at 4-h intervals during 1 day. The same medication is used against toothaches, abundant bleeding and pains during menstruation.

Platyserium stemaria (P.B.) Desvaux. (Polypodiaceae), Kefafarna (Bafia), Ag'beuh (Tikar); whole plant. Preparation: plant is incinerated and ashes are mixed with equal quantity of honey. Dose: 1–2 spoonfuls twice a day for 2 weeks. The plant is also used against cardiac palpitations.

Portulaca oleracea L. (Portulacaceae), Nkékeih (Bafia), Deung-Deung (Tikar);

leafed-stem. Preparation: 500 g paste of *P. oleracea*, stems of *Spilanthes africana* DC. (Asteraceae), *Eryngium foetidum* L. (Apiaceae) and *Ageratum conyzoides* L. (Asteraceae) are macerated in 5 l of water, added of a few crystals of indigenous salt and a few grains of ground seeds of *A. melegueta*. Dose: 150 ml of macerate twice a day.

Pterygota sp. (Sterculiaceae), Wouoho (Sanaga); bark. Preparation: 100 g of bark are mixed with the same quantity of leaves of *Sida veronicifolia* Lam. (Malvaceae) and macerated in 2 l of water; the solution is thickened with a suitable quantity of corn flour. Dose: 250 ml in the morning without food and the same quantity in the evening (maximum duration of the treatment: 3 days). The same medication is used against syphilis and dysmenorrhea.

Sida rhombifolia L. (Malvaceae), Zimben (Bafia), Ndjiché (Tikar); leaves. Preparation: Leaf paste macerated in a suitable quantity of water. Dose: 100–150 ml three times a day. The preparation is also used as sedative and against sexually transmitted diseases.

Sloetiopsis usambarensis Engl. (Moraceae), Otomo landjana (Sanaga); bark. Preparation: 100 g decocted in 1 l of water. Dose: 150 ml twice a day after food (duration of treatment: 3 days). The same decoction is used against spleen problems, fibromes, and scabies.

Tetrapleura tetraptera (Schum. et Thonn.) Taub. (Mimosaceae), Ndjapa (Bafia), Nkwôn (Tikar), Sasas (Bassa), Akpwa (Ewondo), Esèssè (Douala); bark. Preparation: maceration or decoction of 100 g of dried bark in 0.5 l of water. Dose: 100–150 ml three times a day.

Vigna unguiculata (L.) Walp., syn. *Dolichos unguiculatus* L. (Fabaceae), Ekoki (Bafia), Kôn (Ewondo), Wônda m'bale (Douala), Guin (Tikar); leaves. Preparation: leaf paste macerated in a suitable quantity of water containing a little amount of *Capsicum frutescens* L. (Solanaceae) fruit. Dose: 150 ml twice a day on alternate days.

Zea mays L. (Poaceae), Bazeùh (Bafia), Go'o (Tikar), Fonn (Ewondo), Mbassi (Douala), Geùfeut (Bangangte); female flower, or 'corn beard'. Preparation: decoction of 250 g of flower, water-melon peeling and banana cut into pieces. Dose: 150 ml two to three times a day. The plant has antilithiasic and diuretic effects.

4. Discussion

Twenty-six plants traditionally used to cure hypertension in the Bafia region were recorded. The duration of treatment, generally 2–3 days, seems to suggest a calming action rather than a curative one. From the works of Cousteix on the pharmacopoeia of the Ewondo traditional healers in Yaoundé region, many of these species (such as *Zea mays*, *Sida rhombifolia* and *Sloetiopsis usambarensis*) are also indicated for other affections [7].

Some of the reported recipes, liable to produce untoward side effects, should be made and used under the direction of the traditional healers who can control their level of toxicity. In particular:

- the decoction of *Bidens pilosa*, largely used in delivery for its ocytotic effect, should not be taken by pregnant women;
- the decoction of *Persea gratissima* or *Citrus grandis* juice, used by women to induce abortion in the Sangmelima region, should not be administered to pregnant women;
- the sap of *Jatropha curcas*, used as poison in Yaoundé region, acts as a drastic purgative when added to the cake of *Cucumeropsis edulis* (Hook. f.) Cogn. (Cucurbitaceae) seeds; the root decoction of *J. curcas* should be avoided for children.

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